STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT JR.
GOVERNOR

DIVISION OF HIGHWAYS
P.O. BOX 25201, RALEIGH, N.C. 27611-5201

GARLAND B. GARRETT JR.
SECRETARY

February 5, 1997

MEMORANDUM

TO: Whitmel H. Webb, P. E.
Program Development Branch Manager

FROM: Eric J. Lamb EJL
Project Planning Engineer - Feasibility Studies Unit

SUBJECT: FS-9701 - New Route, from SR 1721 (McRary Creek Rd.) to NC 18 (Wilkesboro Blvd.) in Caldwell County

At the request of Board of Transportation member Fred Eidson, I have completed an evaluation of constructing a new facility from SR 1721 (McRary Creek Rd.) to NC 18 (Wilkesboro Blvd.) in Caldwell County, a distance of 4.5 miles. Please see the attached figure for location information. As you are aware, this work is extremely preliminary and is not the product of comprehensive environmental or design evaluations.

By using the existing alignment of SR 1721 (McRary Creek Rd.), this project will intersect US 64/ NC 90 and SR 1788 (Oak Hill Park Creek Rd.), providing a link in a north-south corridor that may divert traffic away from US 321 in Lenoir. It will also provide access to a large tract of property that is under consideration for development for a 3,000-unit subdivision by Broyhill Investments. Currently there is very little development in the vicinity of the project. Most of the property affected by the construction of this project is currently owned by Broyhill Realty. This project is not currently included in the Caldwell County Urban Area Thoroughfare Plan.

Based on the proposed subdivision development and area land use, the projected average daily traffic (ADT) for this new facility in the design year is 14,500 vehicles per day (vpd), with eight percent truck traffic. This is assuming full build-out of the 3,000 homes in the proposed subdivision. A two-lane roadway in mountainous conditions can expect to operate at an adequate Level of Service (LOS) up to 5,500 vpd, while a four-lane divided roadway in the same conditions will operate adequately at volumes as high as 20,000 vpd.

Due to the extreme topography of the area, the design of this new facility was conducted by the Roadway Design Unit in order to insure that minimum design criteria were satisfied and to develop an accurate alignment. This facility has been designed at a 50 mph design speed for mountainous conditions.

Two cross-sections were studied for this project. The costs of each are outlined below.

Two-lane cross-section

A two-lane cross-section would consist of 12' travel lanes and 8' soil shoulders on 120' of right-of-way. The total cost of constructing this project as a two-lane facility is as follows:

Construction	$	18,500,000
Right-of-way	$	700,000
Total Cost	$	19,200,000

Four-lane divided cross-section

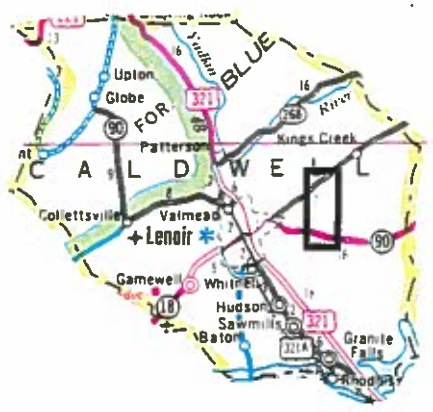
A four-lane cross-section would consist of 12' travel lanes, a 4' median and 4' paved shoulders on 120' of right-of-way. The total cost of constructing this project as a four-lane facility is as follows:

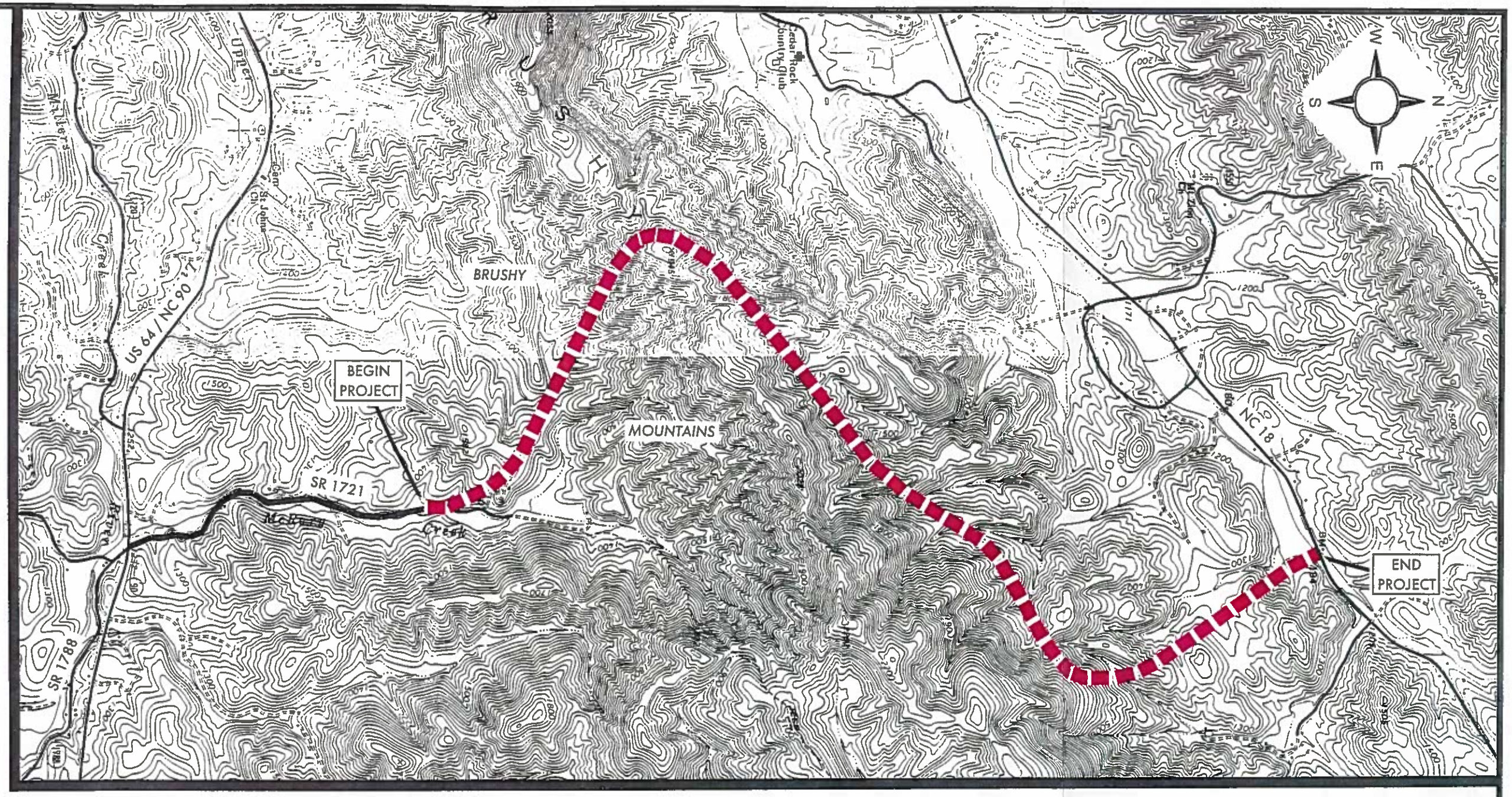
Construction	$	25,200,000
Right-of-way	$	700,000
Total Cost	$	25,900,000

A 120' right-of-way was used for both alternates to allow for staged construction. For both alternates, it is anticipated that one residence and no businesses will be relocated due to the construction of this project.

An environmental screening was not conducted for this study. However, no impacts to historic properties or wetlands are anticipated. No special accommodation for bicycles is recommended on this project.

cc: David G. Modlin, Jr., P.E., Ph.D. - Feasibility Studies Unit Head
Jay Bennett, P.E. - Roadway Design Project Engineer
Forest Robson, P.E. - Statewide Planning Branch





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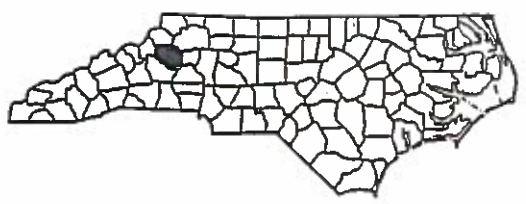

LEGEND

PROPOSED NEW ALIGNMENT

NC DEPARTMENT OF TRANSPORTATION
FEASIBILITY STUDIES UNIT

FS-9701
NEW ROUTE
FROM SR 1721 (McRARY CREEK RD.)
TO NC 18 (WILKESBORO BLVD.)
LENOIR

DIVISION 11	CALDWELL COUNTY	FIGURE 1